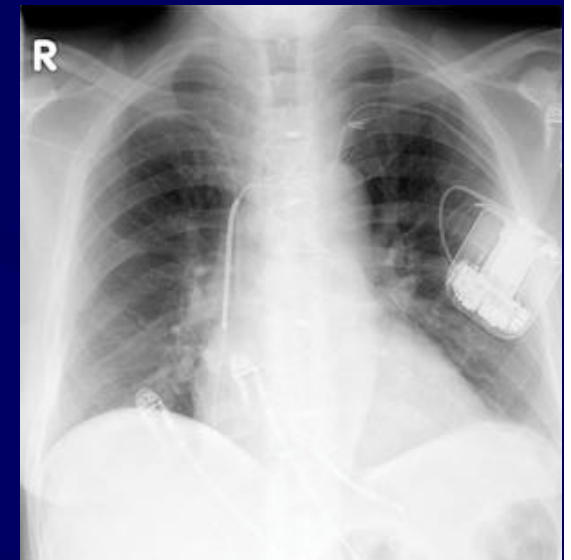


The state of Radiology

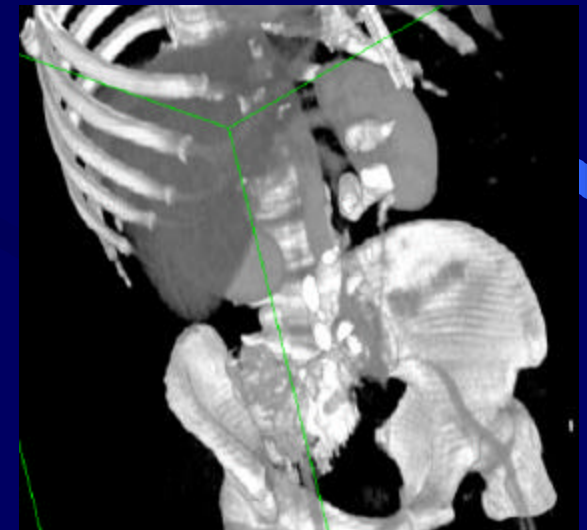
Paul Nagy, PhD

Director, Radiology Informatics Laboratory
Medical College of Wisconsin



Radiology is on the verge of change

- Replacing film with digital images
- Displaying images on monitors
- Any image, any time, any where
- Most modalities are digital
- 30 Billion dollar market
- Can save clinicians 50 minutes a day chasing films
- Improves radiologist productivity
- Improves technologist productivity
- Reduces errors in department



What enables PACS

- Storage
- Display
- Networking
- Processing



Year	Cost of 10 TB
1992	\$ 40,000,000
1993	\$ 22,000,000
1994	\$ 12,100,000
1995	\$ 6,655,000
1996	\$ 3,660,250
1997	\$ 2,013,138
1998	\$ 1,107,226
1999	\$ 608,974
2000	\$ 334,936
2001	\$ 184,215
2002	\$ 101,318
2003	\$ 55,725
2004	\$ 30,649
2005	\$ 16,857
2006	\$ 9,271
2007	\$ 5,099
2008	\$ 2,805
2009	\$ 1,543
2010	\$ 848

Where is PACS now

- Maybe 10-15% adoption in industry
- Only a few have gotten rid of film through the enterprise
- Diffusion of innovation model
 - Just leaving early adopter phase
- PACS is an enabler of change, not a guarantee
- PACS enables one to re-engineer radiology workflow

I need a new professional

- Healthcare has outsourced its knowledge too much.
- Knowledge
 - Experiential
 - Site specific
 - Slow to change
 - Generational
- Little training in efficiency engineering or quality management.



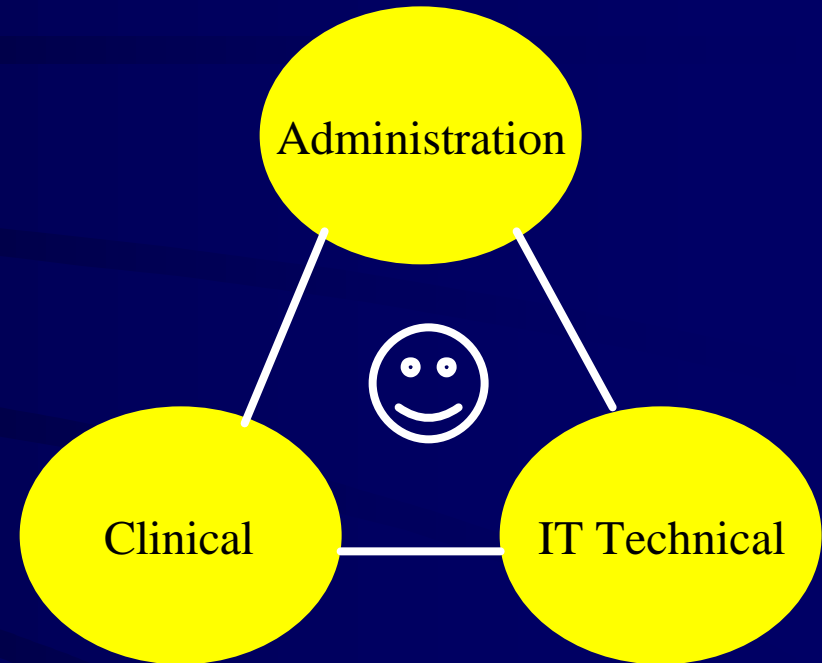
What's the hold up?

- We don't have the knowledge
- SCAR is seeing >70% first timers each year
- We need to do what business's did in the 90's to get rid of paper and paper processes.
- We need a culture geared to resist bureaucracy and improve efficiency.
- We need a learning culture in healthcare.



What is the knowledge for PACS

- Technical
 - Information systems
 - Systems management
 - Technology assessment
- Behavioral
 - Workflow re-mapping
 - User psychology
 - Training
- Business
 - Change leadership
 - Project management
 - Strategic vision



Combines business & IT principles with intimate domain knowledge

Traits of knowledge workers

- Ability to learn
- Good communicators
- Considers themselves a professional
- Eschews principles of quality management
 - Data based decision making



The future of healthcare

- Medicine was never consciously designed
- It was organically grown
- The information age is an enabler of process redesign, not a guarantee.